TIMED PICTURE NAMING IN ITALIAN-SPEAKING CHILDREN & ADULTS: DIFFERENCES BETWEEN NOUNS & VERBS

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WHY ARE VERBS ACQUIRED LATER THAN NOUNS?

• Gentner (1982)

• Caselli et al., 1995, 1999
WHY ARE VERBS ACQUIRED LATER THAN NOUNS?

• Underlying structure more complex
  – Verbs reflect predicates and arguments
  – Nouns typically refer to single entities

• Evanescent referents
  – Verbs refer to moving, disappearing, changing actions and events
  – Nouns refer to static, single entities

• Mapping from meaning to label is more variable for verbs
  – Many ways to describe the same event
QUESTIONS TO BE ADDRESSED IN THE PRESENT STUDY

• Is this noun-verb difference restricted to the first stages of lexical development?

• Or is the same verb disadvantage observed in lexical retrieval in a stage after first words are acquired?

• Timed naming of 250 object pictures in Italian 5-year olds & adults
• More alternative names, less agreement on the target name & slower RTs for that target name in children
• Similar predictor-outcome correlations but larger AoA effects in children
PRESENT STUDY

• Timed naming of 250 object pictures in Italian 5-year-olds & adults (prior study)

  compared with

• Timed naming of 269 action pictures in a separate sample of 5-year-olds & adults (new study)
PARTICIPANTS

• 68 5-year-old children
  – 34 Object Naming
  – 34 Action Naming

• 84 college students
  – 50 Object Naming
  – 34 Action Naming

• 50 additional college students in an earlier action-naming study with instructions to produce verbs in the infinitive form
MATERIALS

• 250 black-and-white drawings of common objects (animals, household objects, fruits and vegetables, body parts, vehicles, people)

• 269 black-and-white drawings of concrete actions (transitive, intransitive activities and events)

• From various sources (Snodgrass & Vanderwart, Abbatte & La Chapelle, Peabody Picture Vocabulary Test, Boston Naming Test, Boston Action Naming Test, miscellaneous)
PROCEDURE

• All pictures scanned and digitized for presentation on a Macintosh workstation

• Presented in the PsyScope Experimental Control Shell (Cohen, MacWhinney, Flatt & Provost, 1993)

• Participants tested individually
  – Automatic inter-trial timing for adults
  – Experimenter-advanced timing for children

• Response times collected by voice key (CMU Button Box)

• Responses audio-recorded for coding
INSTRUCTIONS

• Name the picture as fast as you can without making a mistake
• Give the first name that comes to mind, without any words before it
• Try to speak clearly, don’t say “hmmm” or make any other sounds before the word
• Try to use just one single word when you can
• Practice items prior to onset of experiment
INSTRUCTIONS FOR VERBS

• ORIGINAL NORMING STUDY (50 ADULTS)
  – Instructed to produce verbs in the infinitive form during practice trials

• PILOT STUDIES OF CHILDREN
  – 5-year-olds found it impossible to produce the infinitive form consistently, resorted repeatedly to third person singular

• FINAL STUDY
  – 34 children instructed to produce 3rd p. sing.
  – New sample of 34 adults instructed to produce 3rd p. sing.
SCORING

• LEVEL I:
  – Valid Responses
  – Non-Responses
  – Invalid responses (unusable RT)

• LEVEL II:
  – Target Name (given by most participants)
  – Morphological variant of target name
    • E.g. “doggie” for “DOG”
  – Synonym of Target Name
  – Other
DEPENDENT VARIABLES
(All Analyses Over Items)

• Name Agreement
  – Percent of participants producing target name
  – Also called dominant response

• Number of Different Names Elicited

• Target RT
  – Mean RT for all participants producing target name
Percent of object and action item on which children and adults produce the same or a different target name

- **Object**:
  - Same: 92%
  - Different: 8%

- **Action**:
  - Same: 52%
  - Different: 48%
What kinds of differences did we find in child vs. adult target names for NOUNS? (8% of cases)
Children make phonological simplifications...

**ADULT**

- **Cintura** *(belt)*
- **Fischietto** *(whistle-diminutive)*

**CHILD**

- **Cinta** *(belt)*
- **Fischio** *(whistle)*
Children make part-whole confusions

**ADULT**
- Tacco
  (heel)
- Acquario
  (acquarium)
- Giradischi
  (recordplayer)
- Interruttore
  (light-switch)

**CHILD**
- Scarpa
  (shoe)
- Pesci
  (fish-plural)
- Disco
  (record)
- Luce
  (light)
Children use more generic/superordinate terms...

<table>
<thead>
<tr>
<th>ADULT</th>
<th>CHILD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infermeriera</td>
<td>Signora</td>
</tr>
<tr>
<td>(nurse)</td>
<td>(lady)</td>
</tr>
<tr>
<td>Igloo</td>
<td>Casa</td>
</tr>
<tr>
<td>(igloo)</td>
<td>(house)</td>
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<tr>
<td>Sgabello</td>
<td>Sedia</td>
</tr>
<tr>
<td>(stool)</td>
<td>(chair)</td>
</tr>
<tr>
<td>Palma</td>
<td>Albero</td>
</tr>
<tr>
<td>(palmtree)</td>
<td>(tree)</td>
</tr>
</tbody>
</table>
What kinds of differences did we find in child vs. adult target names for VERBS? (48% of cases)
Children express concrete meanings...

**ADULT**
- *Elemosina* (begs)
- *Imbuca* (posts)
- *Rimorchia* (tows)
- *Opera* (operates)

**CHILD**
- *Chiede i soldi* (asks for money)
- *Mette la posta* (puts in the mail)
- *Porta* (brings)
- *Cura* (cures)
Children use more periphrastic constructions...

**ADULT**
- *Si inchina*  
  *(bows-reflexive)*
- *Accende*  
  *(lights)*
- *Regala*  
  *(gives-a-gift)*
- *Cavalca*  
  *(rides)*

**CHILD**
- *Fa l’inchino*  
  *(makes a bow)*
- *Fa il fuoco*  
  *(makes a fire)*
- *Da un regalo*  
  *(gives a gift)*
- *Va a cavallo*  
  *(goes on horseback)*
Children use concrete scene descriptions...

**ADULT**
- Carica  
  *(loads)*
- Camminano  
  *(walk-plural)*
- Paga  
  *(pays)*
- Allaccia  
  *(ties)*

**CHILD**
- Mette le scatole  
  *(puts in the boxes)*
- Arrivano a scuola  
  *(arrive-plural at school)*
- Compra il latte  
  *(buys milk)*
- Si allaccia le scarpe  
  *(ties-reflexive the shoes)*
SUMMARY PART I

• Children and adults disagree dramatically on names for actions

• Noun disagreements (8%) involve
  – Phonological simplifications
  – Part-whole confusions
  – Generic/superordinate terms

• Verb disagreements (48%)
  – Concrete meanings
  – Periphrastic constructions
  – Scene descriptions
• Why do young children ‘sound different’ from adults in describing the same scenes?

• The difference comes disproportionately from VERBS!!!

• In action naming, children are tied more closely to concrete, specific scenes
LOOKING ONLY AT ITEMS WHERE ADULTS & CHILDREN PRODUCE THE SAME TARGET NAME

- 230 object pictures (92% of 250)
- 140 action pictures (52% of 269)
- Three dependent variables (for each item)
  - Percent name agreement
  - Number of names given
  - Mean RT to produce target name
Percent of Agreement on the Target Name

- **Child**
  - Object: 80%
  - Action: 40%

- **Adult**
  - Object: 90%
  - Action: 60%

Legend:
- Object
- Action
SUMMARY PART II

• Even when children and adults produce the same target name
  – Overall name agreement is lower for verbs
    • Percent of participants producing target name
  – Number of different alternative names is higher for verbs
  – Mean target-name RTs are slower for verbs

• Action naming is harder than object naming for young children, even for the words that they know
QUESTIONS WE ADDRESSED

• Is this difference restricted to the first stages of lexical development?
  – ‘NO’!

• Or is the same verb disadvantage observed in lexical retrieval in a stage after first words are acquired?
  – ‘YES’
WHY ARE VERBS HARDER TO RETRIEVE THAN NOUNS?

• Perhaps for the same reasons that they are harder to acquire early on (Gentner, 1982; Caselli et al., 1995, 1999)
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